



A.D. 1854 N^o 638.

S P E C I F I C A T I O N

OF

THORNTON JOHN HERAPATH.

MANUFACTURE OF SEWAGE AND OTHER
MANURE.

L O N D O N :

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A.D. 1854 N° 638.

Manufacture of Sewage and other Manure.

LETTERS PATENT to Thornton John Herapath, of the City and County of Bristol, Analytical Chemist, for the Invention of “**IMPROVEMENTS IN THE MANUFACTURE OF MANURE FROM SEWAGE, WHICH ARE ALSO APPLICABLE TO THE PREPARATION OF OTHER ARTIFICIAL MANURES.**”

Sealed the 17th August 1854, and dated the 17th March 1854.

PROVISIONAL SPECIFICATION left by the said Thornton John Herapath at the Office of the Commissioners of Patents, with his Petition, on the 17th March 1854.

I, THORNTON JOHN HERAPATH, of the City and County of Bristol, Analytical
5 Chemist, do hereby declare the nature of the said Invention for “**IMPROVEMENTS
IN THE MANUFACTURE OF MANURE FROM SEWAGE, WHICH ARE ALSO APPLICABLE TO THE
PREPARATION OF OTHER ARTIFICIAL MANURES,**” to be as follows :—

My Invention consists in employing the coke of the so-called Boghead or
Torbanehill coal as an absorbent, deodorizing, or decolorizing material, or as a
10 filtering medium, or otherwise in any manner in which it may be applied in the
preparation of sewage and other manures.

Herapath's Improvements in the Manufacture of Sewage and other Manure.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Thornton John Herapath in the Great Seal Patent Office on the 2nd September 1854.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, THORNTON JOHN HERAPATH, of the City and County of Bristol, Analytical Chemist, send 5 greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Seventeenth day of March, in the year of our Lord One thousand eight hundred and fifty-four, in the seventeenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the 10 said Thornton John Herapath, Her special licence that I, the said Thornton John Herapath, my executors, administrators, and assigns, or such others as I, the said Thornton John Herapath, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and 15 lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN THE MANUFACTURE OF MANURE FROM SEWAGE, WHICH ARE ALSO APPLICABLE TO THE PREPARATION OF OTHER ARTIFICIAL MANURES,**" upon the condition (amongst others) that I, the said Thornton John Herapath, 20 by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed; and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Thornton John Herapath, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof (that is to say):—

My Invention consists in employing the coke of the so-called Boghead coal 30 or Torbanehill mineral, either before or after the aluminous ingredients of the coke shall have been extracted by an acid or other chemical for the drying, deodorizing, or absorbing of sewage or other matters operated upon. I proceed as follows:—The coke having been crushed or reduced to a powder, more or less fine, by suitable machinery is added to the pulpy or wet sewage manure 35 prepared according to the Specification of a Patent granted to me the Fifteenth day of March 1853, or prepared by any other method, and is incorporated with the pulp in such quantity as will suffice to reduce it to a state of dryness; or

Herapath's Improvements in the Manufacture of Sewage and other Manure.

the sewage, urine, fœces, or other manure to be deodorized and dried is allowed to flow or percolate through a stratum of the said coke suitably disposed, in such manner, that the matters held in suspension in the sewage, &c., as well as the other constituents capable of being condensed and absorbed by the particles of the coke, shall be retained, whilst the clear filtrate is allowed to run to waste or into reservoirs, to be afterwards employed to irrigate and fertilize land. In some cases, however, I find it advisable to dry the mixture resulting from the absorption of the manure by the coke at once by artificial heat; and in other cases to add a little acid to the coke, so as to dissolve out a portion of the aluminous ingredients, and employ the aluminous solution so obtained in conjunction with the magnesian salts and other chemicals described in the Specification of the former Letters Patent, herein-before referred to, in order to deodorize and precipitate the sewage or other matters, whilst the insoluble charcoal remaining after the action of the solvent is employed in the manner before pointed out.

And having now described the nature of my said Invention, and in what manner the same is to be performed, I declare that I do not claim the employment of ordinary carbonaceous matters as deodorants and absorbents in the preparation of manure when used alone, nor do I claim the use of alumina or aluminous compounds when used alone; but I claim—

The employment of the coke of the said Boghead coal or Torbanehill mineral in the manufacture of sewage manure and other artificial manures, as a means of deodorizing, drying, and absorbing them, and thus of rendering them more portable and less offensive than by any treatment they now undergo.

In witness whereof, I, the said Thornton John Herapath, have hereunto set my hand and seal, this Thirty-first day of August, One thousand eight hundred and fifty-four.

THORNTON J. HERAPATH. (L.S.)

LONDON :

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